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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/668,799	09/23/2003	Scott R. Culler	58718US002	4097

32692 7590 05/25/2006

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EXAMINER
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SHAKERI, HADI

ART UNIT	PAPER NUMBER
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3723

DATE MAILED: 05/25/2006

Please find below and/or attached an Office communication concerning this application or proceeding.

<b>Office Action Summary</b>	<b>Application No.</b> 10/668,799	<b>Applicant(s)</b> CULLER ET AL.	
	<b>Examiner</b> Hadi Shakeri	<b>Art Unit</b> 3723	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --  
**Period for Reply**

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

**Status**

- 1) ☐ Responsive to communication(s) filed on \_\_\_\_.
- 2a) ☒ This action is **FINAL**.                      2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

**Disposition of Claims**

- 4) ☒ Claim(s) 1-31 is/are pending in the application.  
     4a) Of the above claim(s) \_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-31 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_ are subject to restriction and/or election requirement.

**Application Papers**

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 04 April 2005 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.  
     Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
     Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

**Priority under 35 U.S.C. § 119**

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).  
     a) ☐ All    b) ☐ Some \*    c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
  2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_.
  3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

**Attachment(s)**

- |                                                                                                                                                        |                                                                                         |
|--------------------------------------------------------------------------------------------------------------------------------------------------------|-----------------------------------------------------------------------------------------|
| 1) <input type="checkbox"/> Notice of References Cited (PTO-892)                                                                                       | 4) <input type="checkbox"/> Interview Summary (PTO-413)<br>Paper No(s)/Mail Date. ____. |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948)                                                                   | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152)             |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)<br>Paper No(s)/Mail Date <u>050506&amp;033006</u> . | 6) <input type="checkbox"/> Other: ____.                                                |

## DETAILED ACTION

### *Claim Rejections - 35 USC § 102*

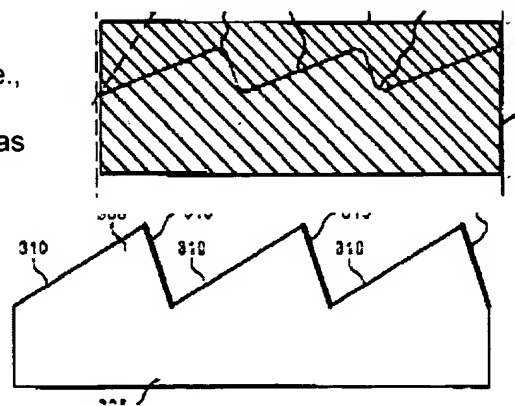
1. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

2. Claims 1, 2, 5-7, 9, 11, 13-18, 21-23, 25, 27 and 29-31 are rejected under 35 U.S.C. 102(b) as being anticipated by Pieper et al. (5,152,917).

Pieper et al. discloses all of the limitations of claims 1 and 17, i.e., abrasive array of protruding units, wherein a distal linear apex for each unit when projected on to a coplanar plane with its respective base, extends between non-central points on opposite first and second sides, e.g., sawtooth shapes which does not necessarily mean the side is 90 degrees or orthogonal to the base, i.e., co-linear to the projected distal region. Sawtooth shapes as disclosed by Pieper et al. are not limited to any particular form, and as indicated by the evidentiary references, US 6,761,620, Fig. 3 or US 5,484,330, Fig. 1, a sawtooth shape includes embodiments wherein the distal region is not on a plane orthogonal to the base.



Regarding claims 2, 5, 7, 9, 11, 13, 15, 16, 18, 21, 23, 25, 27, 29 and 31, Pieper et al. meets the limitations, e.g., rectangular base, linear regions being parallel with substantially the

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same shape and size, having a substantially constant distance to the base or coplanar, and consisting of aluminum oxide.

Regarding claims 6 and 22, Pieper et al. meets the limitations, i.e., the distal linear region being perpendicular to the sides defining the other sides of the four-sided rectangular base.

Regarding claims 14 and 30, Pieper et al. meets the limitations, i.e., the high peaks varying within 10%, (07:13-15).

***Claim Rejections - 35 USC § 103***

3. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

4. Claims 3, 4, 8, 10, 12, 19, 20, 24, 26 and 28 are rejected under 35 U.S.C. 103(a) as being unpatentable over either Pieper et al.

Pieper et al. discloses the claimed invention except for the use of the specific size, different shapes (base, linear regions). Although Pieper et al. discloses that different shapes, periods, optimum shape of the composites depends upon particular abrading applications (08:16-18, 34-38), appearing to anticipate claims 8, 10, 12, 24, 26 and 28, these claims are rejected under obviousness modifications. It would have been obvious to one having ordinary skill in the art at the time the invention was made to use the specific size, in tailoring the article for a particular application, since it has been held that changing shape, dependent on work-piece parameters, involves only routine skill in the art. *In re Stevens*, 101 US PQ 284(CCPA1954).

### ***Double Patenting***

5. The nonstatutory double patenting rejection is based on a judicially created doctrine grounded in public policy (a policy reflected in the statute) so as to prevent the unjustified or improper timewise extension of the "right to exclude" granted by a patent and to prevent possible harassment by multiple assignees. A nonstatutory obviousness-type double patenting rejection is appropriate where the conflicting claims are not identical, but at least one examined application claim is not patentably distinct from the reference claim(s) because the examined application claim is either anticipated by, or would have been obvious over, the reference claim(s). See, e.g., *In re Berg*, 140 F.3d 1428, 46 USPQ2d 1226 (Fed. Cir. 1998); *In re Goodman*, 11 F.3d 1046, 29 USPQ2d 2010 (Fed. Cir. 1993); *In re Longi*, 759 F.2d 887, 225 USPQ 645 (Fed. Cir. 1985); *In re Van Ornum*, 686 F.2d 937, 214 USPQ 761 (CCPA 1982); *In re Vogel*, 422 F.2d 438, 164 USPQ 619 (CCPA 1970); and *In re Thorington*, 418 F.2d 528, 163 USPQ 644 (CCPA 1969).

A timely filed terminal disclaimer in compliance with 37 CFR 1.321(c) or 1.321(d) may be used to overcome an actual or provisional rejection based on a nonstatutory double patenting ground provided the conflicting application or patent either is shown to be commonly owned with this application, or claims an invention made as a result of activities undertaken within the scope of a joint research agreement.

Effective January 1, 1994, a registered attorney or agent of record may sign a terminal disclaimer. A terminal disclaimer signed by the assignee must fully comply with 37 CFR 3.73(b).

6. Claims 1-31 are rejected on the ground of nonstatutory obviousness-type double patenting as being unpatentable over claims 1-6, 8-14 and 16, of U.S. Patent No. 10/668,410 in view of prior art applied above. Although the conflicting claims are not identical, they are not patentably distinct from each other because the reduction to practice of the copending claims would render obvious the instant claims in view prior art as applied above.

### ***Conclusion***

7. **THIS ACTION IS MADE FINAL.** Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period

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will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the mailing date of this final action.

### ***Response to Arguments***

8. Applicant's arguments filed 05/12/26 have been fully considered but they are not persuasive.

The argument that Pieper et al cannot be used as anticipating the claims, since Figs. 8, 9, and 17 disclose only one sawtooth shape which is co-linear to a third side, is not persuasive. Examiner is aware of the requirement of 35 U.S.C. 102 that each and every limitations of the claimed invention be disclosed in a single reference. Pieper et al. discloses all the limitations. Claims recite for the distal end when projected on a plane not to be collinear to the third side. Applicant further defines "co-linear" as not forming a 90 degrees angle with the base, per arguments now part of record. Firstly Fig. 9 of Pieper et al. does not clearly show a distal linear region forming a plane orthogonal to the third base and it could be argued that it is at an angle less than 90 degrees, however, the anticipation rejection is not solely based on the figures rather, as was indicated in the pervious office actions, on the disclosure. Pieper et al. discloses, e.g., in describing the figures a "sawtooth" shape. This broad description encompasses sawtooth shapes as disclosed in Figs. 8, 9, and 17 (as argued by the Applicant) and/or sawtooth shapes as argued by the Examiner and presented by the evidentiary references above. The evidentiary references are not used to remedy for a lacking element, rather to support the Examiner's position in arguing that "sawtooth" shape as disclosed by Piper et al. does include sawtooth shapes as argued by the Examiner in addition to the ones as argued by the applicant. Therefore the argument that Pieper et al. does not disclose the shape as recited is not

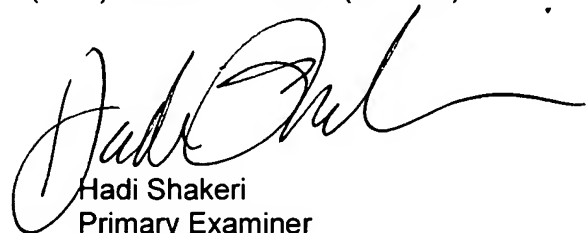
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persuasive. With regards to the argument that a 2x2 array is not disclosed for the sawtooth shape, and it is only disclosed for the pyramidal composite, it is noted that not every possible embodiments disclosed by a reference must be shown in a figure. Piper et al discloses 2x2 array and discloses shapes like pyramidal or sawtooth, as such anticipates the claimed invention as recited.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Hadi Shakeri whose telephone number is 571-272-4495. The examiner can normally be reached on Monday-Friday.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Joseph J. Hail, III can be reached on 571-272-4485. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).



Hadi Shakeri  
Primary Examiner  
Art Unit 3723

hs  
May 17, 2006